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The Design of Central Park.

IN the course of a very good, though necessarily brief, description of the Central Park in the recently published Baedeker's *Handbook of the United States* it is stated that this park differs from most English parks in substituting a multiplicity of small picturesque scenes for broad expanses of turf and simple groves of great trees. This is practically true, but it ought not to be forgotten that the park has the same pastoral charm of simple natural scenery which is found in landscapes where the features are broader. When the site was selected not the slightest attention was given to its landscape possibilities, and the fact seemed only to be considered that it was in the centre of the island and that the ground was so broken and intractable that it would cost as much to construct streets throughout it on the established rectangular system as it would to transform it into a pleasure-ground. South of the reservoir the surface was so rugged and heterogeneous, traversed as it was diagonally by ridges of outcropping gneiss, with marshy hollows between them, that no opportunity for making any spacious meadow-like expanse was offered. The upper half of the park could be treated in a somewhat broader way, as its natural features were larger, its slopes had a grander sweep and its horizon lines were nobler.

The only landscape effects which could be produced under these restrictions were such as could be controlled between the boundaries of a long, narrow rocky territory with no prominent points commanding extensive views. No doubt, if the same intelligent study could have been applied to the selection of a site which was given later to devising contrivances to remedy its defects, the park could have been made still more satisfying. Nevertheless, it was the primary effort of the designers to make as large open spaces as were practicable. Two considerable stretches of greensward were secured in the lower part at great expense by blasting out protruding rock and filling the space with earth and mold. As it is, the green contains but sixteen acres, and the ball-ground but ten acres, although they both seem much larger. The rolling surface of the green and its obscure borders, where the limits of the grass are lost in the shady recesses among the trees, through which glimpses of grassy slopes are seen at intervals beyond, all suggest indefinite distances to the imagination. All the roads, too, are arranged so as to bring these spaces into view several times from different points with varying effect. Of course, there is a greater sense of enlargement and freedom experienced in the north meadows, but even here only nineteen acres of open space could possibly be secured.

These small picturesque scenes, therefore, were not used because the designers considered them preferable to larger expanses and simple groves, but because this was the only possible method of treating the ground. They were so used, however, as to produce the same effect upon the imagination as broad pastoral scenes. The small spaces are distributed through the park in such a way that they carry forward and emphasize the softness and simplicity of the meadow scenery. Even in the Ramble, which is characterized by intricacy and picturesqueness, and where there are places which have all the mysterious charm of a natural wildwood, there are many little grassy openings bordered with trees which repeat the meadows in a small way and carry the idea of pastoral quiet throughout the work. Indeed, the great value of Central Park is that it is a work with unity of design and that it is consistent throughout, and it still remains the best, as it was the first, example of a public pleasure-ground designed to have the restful charm of simple natural scenery and yet completely enclosed by a compactly built city.

Of course, in every instance the most is made of greensward, and any encroachment upon it by enlarging the pathways or roadways, that is, by increasing the proportion of gravel to grass, is in the line of defacement and ruin. In order to reduce the walks to the narrowest possible limit, so that these wide stretches of gravel should not weaken and divide the essential features of the scenery, the roads have been adjusted so as to withhold from people on foot any inducement to cross the ground set apart for carriages. The paths and drives are made to cross at different levels, so that a visitor on foot can reach any point in the park without stepping on a carriage-road. Indeed, the system of arched passage-ways is a distinguishing feature of the design of Central Park. These archways practically enlarge the verdurous elements of the park, because without them the roads and paths would need to be much wider; and, as it is, the total area of graveled ways for riding, driving and walking amounts to more than 106 acres.

These considerations alone ought to condemn the project which has lately been set on foot for making a new carriage-entrance in the southern side of the park at the head of Seventh Avenue. The people who drive to the park in carriages have ample facilities for entering at the beginning of both the east and the west drives. The new road proposed would cut through a hill at the outset, where an excavation of at least ten feet deep would be required, and before it united with the cross-drives many well-grown trees and much beautiful shrubbery would be sacrificed, and it would entirely change the character of the lower portion of the park. As it is, visitors can step at once from the city into sylvan scenery and walk through vales which now are utterly secluded. The path-way which extends entirely across the southern end of the park would be interrupted by a constant stream of carriages, so that the principal walk in that portion of the park would be ruined for pedestrians. Another essential feature of the park is the broad tree-shaded promenade on the north side of Fifty-ninth Street, which extends in an unbroken stretch from Eighth Avenue to Fifth Avenue, just outside of the park boundary. This broad walk would entirely lose its character and value if a carriage-road were laid across it.

In the book mentioned at the beginning of this article it is stated that the transformation of a tract of swamp and rock into one of the most beautiful parks in the world is a strik-

ing monument of American skill and perseverance. It is more than that, it is a work of genius, and the more it is studied the more we wonder at the prophetic power of the designers in providing so far in advance for the wants of a city, which only existed at that time in imagination. Whenever any radical change in this design is proposed, the project should always be examined with reference to its effect upon the fundamental character of the work as a whole. It is just as truly a unit in conception as if it consisted of a single broad meadow.

The Height of Ignominy.

IT was the custom in France, under the old régime, to punish contumacious noblemen who declined to come to judgment by cutting their signorial forests (bois seigneuriaux) to within three feet of the ground. This was called "La coupe des bois à hauteur d'infamie," or "La coupe infamaute," and was one of the punishments of treason. It was also inflicted as late as 1665, in the reign of Louis XIV., upon certain men of note who had incurred the royal displeasure by the contumacy of declining to appear in court for their political offenses. These gentlemen, though they were fortunate enough to save their lives by escaping, did not get rid of fearful punishments by decree, and were duly sentenced in their absence, some to the gallows, others to breaking on the wheel, decapitation, whipping with banishment, and banishment alone. As a final mark of infamy, their châteaux were to be destroyed and their woods cut à trois pieds de terre. Earlier in the century certain other nobles, who had dared to repeat the offense of meeting to consider the necessity of the assembling of the States General, after it had been once forbidden, were condemned to the same punishment for having fled the country rather than to abide their fate at home.

In the generally barbarous condition of political government under the Bourbon rule, it is gratifying to see, that in their respect for the forest, the lawmakers of that epoch were civilized and already perceived the dignity and importance of the possession of trees. Even in dire vengeance it was only the profit of the trees that was taken away from the guilty possessor, the roots being left to furnish another growth that should be of value to a succeeding generation. To burn a forest, as our reckless settlers do, would have seemed to those prudent Frenchmen, always alive to the material interests of the country, a woeful waste, and they contented themselves accordingly with reaping only one harvest, not destroying future crops completely, allowing thus the soil to retain those forest-conditions, the value of which is so unwisely ignored by our wood-cutters.

It might be of advantage to our people, if some equally pregnant object-lesson could be furnished them, to make them understand the true signification of the "height of ignominy." What peasant of those cruel days could have failed to be impressed with the woe that had befallen the lawful lord when his giant Oaks were despoiled, and only a dreary waste of stumps was left to show where the great forest had stood, the pride of its possessors, and an evidence of their generations of ownership of the property? To make the felling of a wood a mark of disgrace was to enhance the value of all trees in the eyes of the people, to emphasize the importance of the forest and to point the moral of the worth to every one of this bountiful gift of Nature. The coppice-growth springing from the wreck would, for years to come, remind the older villagers of the great trees that once occupied the ground, and would serve to impress still more upon the children the sufferings of the seigneur who had been so sternly dealt with by the king, in the destruction of the bois under which their fathers and mothers had played, and of the magnificence of which they loved to tell. To destroy those woods was to rob the countryside, to inflict a vengeance that fell, not only on the lord, but on the vassal, for whereas certain private spites of his own might have found a certain satisfaction in the personal sufferings of his master, the peasant could not but be moved by the doom that took from himself his chance of fuel, sometimes stealthily gained after a high wind, which strewed the ground with broken branches, or his occupation as forester or charcoal-burner in the glades. Thus the king found a signal method of impressing the consequences of incurring his displeasure upon all his subjects, rich and poor alike, while awakening in them a due respect for the forests, to cut which was so awful a penalty that it followed treason and defiance of lawful authority.

Botanical Notes from Texas.—X.

BERBERIS SWASEYI, Buckley, was found, many years ago, by the botanist whose name it bears, near Perdinalis River. Its botanical characters, written by Buckley, were published in Young's *Botany of Texas*. Since that time it has been rarely, if at all, seen by botanists. While at San Marcos, I learned, incidentally, that a species of Berberis was growing in the northern part of Hays County, very unlike B. trifoliata. A specimen of it, furnished me by a star-route man, led me to think that it was Swasey's plant, and I concluded to visit the locality and examine the growing plants. The mail man kindly offered me a pass over the route in his hack, but he assured me that it would be the roughest ride that I had ever taken, and that I would have to pass through Purgatory on the way. But what are fifteen miles of rocky road, and even Purgatory itself, when a new plant, or an old lost one, is to be found?

The day chosen for the trip was a pleasant one. Old familiar plants were often to be seen along the way, and occasionally a strange and hitherto unknown one presented itself. We made one halt to leave the mail at Purgatory Post-office, and one more to regale ourselves with the luscious ripe dewberries that were abundant by the road-side. The road was fully as bad as my friend had described it. But Purgatory was only a pleasant and fertile valley, among the sterile hills, covered with fields of growing Corn and Cotton. A small creek, that waters the valley, bears the same unmeaning name, which had probably been given to the valley by some pessimistic early settler, whose dreams of success had never grown into realities. Just beyond the valley, on the slope of the mountain, we found one Barberry. Two bushes were growing in the enclosure of a farmer. He said that they were natural productions and not planted by him. At the time of my visit, during later days of April, the plants were bearing nearly ripe fruit. One of the plants was a low bush, not rising over three feet. The other one was at least six feet tall. An individual, growing in the highway, was at least eight feet tall. The plants, as seen by me, may be described about as follows:

Berberis Swaseyi, Buckley. An evergreen shrub, three to eight or more feet tall; leaflets, two to four, usually three pairs, with a terminal one, basal pair very small, remote and near the base of the petiole, glaucous and reticulate, sinuate-dentate and spiny; fruit in bracted racemes, globose or obconical, deeply depressed, sunken at the summit, whitish, with a tinge of red in the sun. Said to be common in the mountain-region of central Texas, west of the ninety-eighth meridian. The fruit on one of the bushes varied a little in size and form from that on the others, owing, perhaps, to growing in the shade and being less mature. Berries on the lowest plant were like those on the tallest plant.

It will be seen that this description differs somewhat from Buckley's, and from Coulter's description of B. Swaseyi. Perhaps, neither Buckley nor Coulter ever saw growing plants of the species. Swasey may have seen only a low form of it. But it can hardly be other than his species. Perdinalis River is thirty or forty miles north of the station that I have mentioned.

New Braunfels is a thriving German town, about thirty miles north-east of San Antonio. It has a mountain-born river of its own, though only about a mile long, from its birthplace at the base of a mountain to where it loses itself in the Gaudalupe. Comal River is a deep and rapid stream, affording strong and abundant water-power, which is largely utilized for milling and manufacturing purposes. New Braunfels will always be held in pleasant remembrance by botanists, as having been, for a long time, the home of Jacob Ferdinand Lindheimer, one of the most ardent and successful of our plant-collectors. He was one of the founders of the city, and found his last resting-place in its cemetery.

Lindheimer was born in the old free city of Frankfort, in Germany, on the twenty-first day of May, 1801. His family is ancient and honorable and related to the family of Goethe. He received a liberal literary education, and practiced gymnastics under the training of the celebrated Professor Jahn. In 1830 he joined in an uprising of the people against the government. It being unsuccessful, he thought it prudent to leave the fatherland and come to a country where there is no need of rebellions. His first residence was in St. Louis, where he made the acquaintance, which developed into a life-long friendship, with the late Dr. George Engelmann.

He went, in 1834, with a German colony to Mexico, but, not pleased with the condition of affairs there, he came to Texas, and joining the Texas republicans he assisted them at the decisive battle of San Jacinto in making their attempt at independence a successful one. At the close of the war he settled in Hous-

ton, where he began the botanical excursions and collections that have forever linked his name with North American botany. In 1844 he met Prince Carl Von Braunfels, leader and patron of the first German colony to Texas, and founder of the city which bears his name and commemorates his success in introducing German industry and thrift into the young republic. Lindheimer joined the colony and came to New Braunfels in 1845.

The infant colony flourished greatly. In 1852 Lindheimer was elected editor of the *Neu Braunfelser Zeitung*, the first established, and now the oldest, German newspaper in the state of Texas. He resigned his position in 1871, and passed the remaining years of his life quietly and pleasantly on his little farm in the outskirts of the city, and near his beloved Guadalupe, along whose banks he had so often wandered, and the plants of whose valley he had studied so carefully and so well. He died on the second day of December, 1879.

Lindheimer was a brave man, almost an athlete in strength, yet mild and gentle in his ways, and free and simple in his habits and mode of living. During the prevalence of the cholera in 1849 a German family came to New Braunfels, and two of its members were taken with the disease. In their poverty and distress, Lindheimer settled them on his own lot, and cared for them with a brother's affection, at the cost, however, of the lives of two of his own children and his own narrow escape from death.

Lindheimer left little but what he had added to the world's stock of knowledge and goodness, and his mortal remains lie in an unmarked grave in the city cemetery, on the banks of the Guadalupe. It is a pity that not even a stone marks his grave. But many species of American plants bear his name, and the monotypic genus, Lindheimera, will keep his memory bright in the hearts of those who care to know that such a man lived and labored for science. It is well that Lindheimera Texana grows abundantly around the home of its discoverer.

The rather rare and local Schrankia platycarpa I first met at New Braunfels. It may easily be recognized by its flattened pods. I saw it later at San Antonio. The handsome little Gilia rigidula grows commonly in rocky places throughout central Texas. It is much more luxuriant here than farther north.

Sophora secundiflora is very abundant around San Antonio, readily becoming a handsome small tree. An individual tree near the river above the springs is at least thirty feet tall, and nearly a foot in diameter. San Antonians call the species Laurel. They have even named one of the beautiful suburbs of their handsome city "Laurel Heights." A form of this species is occasionally met with lighter-colored flowers and bright orange seeds.

Nyctagineus capitatus begins to appear at San Antonio. Its clusters of large bright scarlet flowers, with long exserted stamens, are very handsome to the eye, but their odor is disgusting. Many eastern species of plants that have ventured as far south-west as San Antonio, do not seem to care to go farther in that direction. I have not seen Callicarpa Americana, Sophora affinis, Passiflora incarnata and several others west of the San Antonio valley.

Kansas City, Kansas. *E. N. Plank.*

Foreign Correspondence.

London Letter.

POLYGONUM SACHALINENSE.—This plant has lately been brought into prominent notice by several English journals which recommend it as a good fodder-plant of exceptional value in dry seasons in temperate countries. Inquiries from correspondents interested in fodder-plants have also reached Kew with regard to this Polygonum. It is a coarse-growing herbaceous perennial, which we use as a lawn specimen, and also in the wild garden, where, in the poorest soil, impoverished, too, by the roots of large trees, it produces annual succulent shoots eight feet long, clothed with green ovate leaves a foot or so long. The root-stock spreads rapidly by means of horizontal stems or rhizomes, which grow very quickly in the manner of some of the Bamboos. No plant could be more easily grown, and as every bit of its root-stock will soon grow into a new plant it is as easily multiplied as the weediest of "knot-grasses." Should it prove of real value as a fodder-plant, its recommendation to farmers and others cannot be too warmly endorsed, but in the event of its proving of no economic value its extensive propagation would be regretted. In a communication to the *Gardeners' Chronicle*, by the well-known French horticulturist, Monsieur Charles Baltet, whose book, on the art of grafting and budding, is known to every gardener, this Polygonum is recommended as a fodder-plant in consequence of experiments made by Monsieur Doumet-Adanson, communicated to the Société Nationale d'Agriculture of France, by Monsieur Duchartre. The stems are cut when they are three or four feet high, and again the same year, should they be strong enough, while well-established stools are said to give three or four crops a year. An acre is said to yield from ninety-five to one hundred and ninety tons (per annum?). Monsieur Doumet-Adanson says that cattle are extremely fond of it. The plant is a native of the island of Saghalin, between Japan and Siberia, where it was discovered by Maximowicz and introduced into Moscow, and from thence into France in 1869 by Monsieur Ed. André. Buckwheat, Polygonum Fagopyrum, the staple food of the inhabitants of central Asia, is also said to be a native of the same part of the world. I know that pigs will greedily eat the stems of several of the Polygonums found wild in Britain.

DORYANTHES GUILFOYLEI.—Under this name a plant which flowered in the Botanical Garden at Melbourne, is figured and described by Mr. Guilfoyle in *The Garden* for July 22d. Hitherto we have known only two species of Doryanthes, D. Palmeri, figured in the *Botanical Magazine*, t. 6665, from a plant flowered at Kew in 1882, and D. excelsa, figured in the *Botanical Magazine*, t. 1685, and first flowered in England eighty years ago. According to Mr. Guilfoyle, however, two other species have been found; he says: "There are now four species of Doryanthes known, namely: D. excelsa, the well-known Spear Lily of New South Wales, D. Palmeri, D. Larkini and this new one which has just been named D. Guilfoylei by the Government Botanist of Queensland, Mr. F. M. Bailey, F.L.S. . . . D. Palmeri was hitherto considered to be the most gigantic and showy Amaryllid discovered in Australia, but it is eclipsed in size and beauty by this later discovery. The leaves are nine feet long, over eight inches wide and of a brilliant green. From the base of the flower-stalk (which is fifteen inches in circumference) to the apex of the inflorescence is sixteen feet two inches. Of this seven feet eight inches is a compound spike of rich crimson Amaryllis-like flowers, each four inches in length. The plant was discovered by a brother of mine in the Upper Bardekin Ranges, North Queensland." In my opinion this plant may be described as a large variety of D. Palmeri. The Doryanthes are exceedingly handsome foliage-plants, not unlike some of the the Furcrœas, their long strap-shaped, glossy green elegant leaves forming a magnificent rosette, which is at least as ornamental as the finest of the Agaves. They are nearly, if not quite, as hardy as A. Americana, and would, therefore, be of exceptional value in countries where they can be grown permanently outside. At Kew they are grown in the Winter Garden. The late Duke of Marlborough had several grand specimens, which were placed outside on the lawns at Blenheim in summer. I cannot distinguish D. excelsa from D. Palmeri when not in flower. The former has a pole-like flower-stem twenty feet long, bearing a terminal head of red flowers and bracts; the latter has a stem about fifteen feet long, the upper five feet being a thyrsoid panicle of crimson flowers. Both species die after flowering, and they produce a large number of bulbillæ after or along with the flowers, as in Furcrœa.

CALANDRINIA UMBELLATA is well known in England as a charming little summer-flowering perennial for the rock-garden; it is also treated as an annual, the seeds being sown in pots or in the border in autumn or in February to flower in the summer following. This year we have grown a number of it in pots, and they are now a great attraction in the small house devoted to alpine plants. Each plant is in a four-inch pot, and forms a compact little specimen six inches high and about a foot through, and bears ten or fifteen compound umbels of bell-shaped erect flowers half an inch across, and colored brilliant magenta. No plant could

be more charming. It is a native of Chili. The Californian white-flowered C. oppositifolia is also an effective little pot-plant. C. discolor and C. grandiflora are among our choicest summer-flowering annuals.

Primula Poissoni.—This beautiful Chinese Primrose continues to give satisfaction as a pot-plant for the cool greenhouse. It is flowering freely now in several houses at Kew, its erect spikes with whorls of flowers like P. Japonica, colored bright magenta or rosy purple, with a yellow eye, being particularly pretty and effective when grouped with such plants as Asparagus plumosus and Primula floribunda. Out-of-doors P. Poissoni does not flower freely, and the leaves are disposed to decay, possibly through excessive sun-heat or scalding. Most of the species of Primula prefer a shaded and moist situation, particularly those which flower in summer. I never saw anything more striking in the way of a Primula than a large bed of P. Sikkimensis on a north-west border under a tall wall in the Botanical Gardens of Trinity College, Dublin. The scapes were from two to three feet high, and each one bore a cluster of from forty to sixty soft yellow fragrant flowers. P. Japonica, growing near it, was equally happy.

Caladium venosum.—This is a new species which has been introduced from Brazil, and described in the *Gardeners' Chronicle* by Mr. N. E. Brown. It has leaf-stalks ten inches long, pale green, with black dots and lines, and leaf-blades elongate, ovate-deltoid, ten inches long by four inches wide, with the nerves prominent on the lower surface; upper surface dark green, with yellowish green irregular lines along the nerves and a narrow marginal line of red. Spathe three inches long, green, with a basal blotch of red, and a white limb.

Caladium rubescens is a second species from the same source. It has leaf-stalks six inches long, blackish and finely striated; the leaf-blade is ovate-lanceolate, six inches long and two inches wide, scarcely cordate at the base, the color deep shining crimson, with a green border. Spathe three inches long, glaucous green, with a black stripe; limb two inches long, acuminate, milk-white in color. The former of these two is not unlike the old C. maculatum or bicolor, the latter resembling C. Schmidtii. Mr. Brown says it is a long time since anything so decidedly different from the ordinary form of Caladium has been introduced, and recommends them as being "likely to produce by hybridization a new race of garden Caladiums."

London. *W. Watson.*

New or Little-known Plants.

Iris Caroliniana.

THIS species was discovered by W. A. Manda near Wilmington, North Carolina, in 1888, and first flowered in cultivation at the Harvard Botanic Garden, when it was described by the late Sereno Watson.* Closely allied botanically to Iris versicolor, I. Caroliniana is quite distinct from a horticultural point of view. Every one in the eastern states is familiar with the common Flag, I. versicolor, with its stiff, erect, somewhat glaucous leaves and small light purple flowers. I. Caroliniana is an entirely different garden-plant—vigorous, but with somewhat shorter sword-shaped leaves, which are lax, thin, shining green on one surface, and somewhat glaucous on reverse. The young foliage is at first suffused brown, but this coloring disappears as it matures, except at the base. The flower-stems are about as long as the leaves, and give a distinction to the plant as they are colored a dark glistening brown, which also extends over the long, thin, almond-shaped flower-buds. The flowers are of a good size and attractive in shape, as will be seen in the illustration on page 335 of this issue, from a drawing made by Mr. Faxon of a plant which flowered this year in the Harvard Botanical Garden. In color they are light lavender, with a yellow keel. Iris Caroliniana is a very satisfactory garden-plant, increasing rapidly and flowering freely.

*Iris Caroliniana, Watson, *Gray's Manual*, 6th ed., 514; *Proc. Am. Acad.*, xiv., 134. Root-stock rather stout; leaves elongated, three feet long by twelve to fifteen lines broad, thin and lax, bright green, not glaucous, or scarcely at all so; stem slender, two feet high; peduncles two-flowered; bracts scarious, exceeding the pedicels; ovary eight lines long, bearing a cylindric-campanulate tube six lines long; petals distinct at base, the outer three inches long, broadly spreading, with a yellowish green claw veined with brown, the elliptical blade lilac, veined with purple and with a yellow spot reaching to the centre; inner petals oblong-spatulate, two and a half inches long, the blade lilac and claw yellowish; anthers as long as filaments; wing of the stigma continuous with the erosely toothed lilac crest; capsule nearly two inches long, oblong, somewhat triangular, with very rounded angles; seeds in one row in each cell, very large (four or five lines broad and two lines thick), pale brown. Resembling in some respects I. versicolor of the northern states, as it has been generally understood, which doubtless also includes the I. Virginica of Linnæus as represented by the original Gronovian specimen preserved in the herbarium of the British Museum. That species differs most notably in its erect glaucous and often much shorter leaves, and its very much smaller seeds in two rows in each cell. There are also less obvious differences in the coloring and shape of the smaller flowers. It varies to a considerable degree, especially in size, but in its main characters it appears to be constant and well defined.

A New Hybrid Rose.

IN the year 1891 Mr. Jackson Dawson fertilized a flower of Rosa Wichuraiana with pollen of General Jacqueminot, and in December he planted four seeds which resulted from this cross. The seedlings appeared in January, 1892, were grown in pots during the summer and wintered in a cold pit. All bloomed in June of this year, which is rather remarkable, since few seedling Roses bloom before the second or third year. These plants differ materially, although they all show to some degree the trailing habit of the seed parent. One of them has single pale pink flowers, borne in clusters, and is intermediate in habit between the two parents. Another one bore double flowers of a pale flesh color, which did not open well, owing to damp weather. The third one has a prostrate habit, with rosy pink flowers borne in clusters of four or five from every joint of its last year's wood. It received a first-class certificate from the Massachusetts Horticultural Society at its Rose Show in June. The fourth plant, of which an illustration will be found on page 337, is not as prostrate in habit as Rosa Wichuraiana, and its broader leaves have a glossy surface. The solitary flowers are very double, and in shape and color resemble those of Souvenir de la Malmaison, although they are smaller. The plant continues in bloom a long time and promises to be very useful.

Cultural Department.

The Best of the New Strawberries.

OUR present list of standard varieties is largely made up of kinds introduced from five to eight years since, and as many of these show signs of failing already, it is time to seek out new sorts to take their places. The necessity is evident from the fact that, of the varieties in cultivation ten or fifteen years since, hardly one is now generally grown. During the past five years originators of new Strawberries have brought out few that are worthy of being grown, for, although many of them have proved of value, few of the thousands produced, or of the hundreds placed on the market, have proved worthy of general planting. There is a more encouraging look for some of the recent introductions, however, and for a number of seedlings that are still in the originators' hands.

The following are the most promising of some eighty new kinds planted in the spring of 1892. Statements as to the value of each are based upon comparisons made with nearly one hundred other varieties, including all of the standard sorts, grown in adjacent rows under similar treatment. Several varieties, otherwise very promising, were badly injured by leaf-blight, but, as our experiments have shown, this can be kept in check by the proper use of Bordeaux mixture.

In most cases a trial of only one season, and that a very favorable one, has been made. The early varieties deemed worthy of trial number ten and include such as ripen with Haverland or earlier.

Afton (received from C. W. Graham, Afton, New York).—While the plants are only moderately strong, they set a large amount of fruit, and gave a satisfactory crop, although the berries were rather small at the close of the season. The first fruits were gathered June 19th, and the plants remained in bearing until July 10th, or as late as any sort. Berries of medium size, roundish conical in form and of a deep crimson color. The flesh is very dark, of good quality and firm enough for a local market berry. One of the most productive of the early kinds.

Clark's Early (W. F. Allen, Salisbury, Maryland).—The same in season as Afton, which it resembles in color. It is, however, rather more rounded in form and has a more upright fruit-stalk. While rather less productive, it is superior, both in quality and firmness. The plants are very healthy, and it seems excellent as a family berry, and, if productive enough, its shipping qualities will make it desirable as a market sort.

Fig. 51.—Iris Caroliniana.—See page 334.
1, a flowering scape; 2, a fruiting scape; 3, a seed. All natural size.

Fairmount.—First fruit July 19th; plant very strong and free from rust. The berries are medium to large; conical, flattened and depressed at the tip, often ridged. The fruit is very dark crimson in color and the flesh is also quite dark. Quite productive, of good quality and fairly firm.

Feight's No. 2 (David Feight, Little York, Ohio).—Ripens with Crescent (July 17th). The plants were strong and free from disease. Berries medium to large in size, round or slightly depressed at tip, and crimson in color, with dark flesh. It was very productive of berries of excellent quality, and of sufficient firmness to make it valuable for shipping.

Leroy (J. H. Haynes, Delphi, Indiana).—The plants were very strong, but were slightly injured by leaf-blight. Ripe July 18th; berries of good size, conical, slightly flattened and depressed at the tip; berry and flesh dark. Plants quite productive and of good quality, but not sufficiently firm to make it valuable as a shipping sort.

Pawnee (Stayman & Black, Leavenworth, Kansas).—Ripe with Michel (June 16th). The plants were quite strong, but were considerably injured by rust, which noticeably shortened the crop. Berries of medium size, roundish conical, and deep crimson in color, of the very best quality, but rather soft. The yield was so cut down by rust that no idea of its productiveness under favorable conditions could be obtained.

Roser's No. 1 (E. L. Roser, Brittain, Ohio).—In size, shape and color much like Pawnee. It was also badly injured by rust. This, however, did not prevent the development of a satisfactory crop. Of fair quality, but rather soft.

Smeltzer's Early (Frank Smeltzer, Van Buren, Arkansas).—Ripens with Haverland. Plants quite strong, and entirely free from rust, except at the very close of the season. Berries ripened together, and only gave three or four pickings; fairly productive, of good quality, and moderately firm.

Tom Walker (Albaugh Nursery Co., Todmor, Ohio).—Plants very strong and healthy. Berries large, round, or slightly flattened; dark crimson. It was quite productive, and while only of fair quality, and not sufficiently firm to make it a shipping berry, its handsome appearance, combined with its productiveness and size, will make it valuable for local market purposes.

Weston.—Although not among the very early sorts, it was ripe June 20th. Plant very strong and quite free from leaf-blight. Fruit large, conical, sometimes depressed and furrowed; color bright scarlet. One of the most productive kinds grown, and firm enough to make it a good shipper; quality fair.

Of the medium and late varieties, the following twelve would head the list:

Beverly (Benjamin M. Smith, Massachusetts).—The plants were vigorous and but slightly injured by rust; while other kinds may have slightly excelled in productiveness, its superior quality places it to the front as a berry for home use, and its firmness will make it a good shipper. The berries were generally slightly conical, and the larger ones were ridged; sometimes failing to ripen at the tip.

Clyde (Stayman & Black).—The most promising as a market sort of all the varieties grown. Plants very strong and quite healthy. Berries of medium to large size, round or slightly depressed, deep scarlet. Very productive and quite firm; flavor only fair.

Enhance (Henry Young, Ada, Ohio).—As compared with Clyde, this stands a good second. Fruit large, generally furrowed, broad, conical, quite firm and of fair quality. Excelled in productiveness by very few sorts.

Greenville (E. M. Buechley, Greenville, Ohio).—One of the most productive kinds grown, but hardly good enough in quality to take high rank as a berry for family use, and rather soft for shipping to distant markets; it is, however, very promising as a home market berry. Plants strong and vigorous; free from rust. Fruit large, broad, conical, often furrowed, or slightly irregular; color, deep scarlet; flesh dark.

Hattie Jones (J. H. Haynes, Delphi, Indiana).—In a general way the report for Greenville would answer for this variety. The berries are somewhat smaller, darker in color, and of still lower quality. It is fully as productive as Greenville, but seems a little subject to rust. Promising as a market berry, where flavor is not considered.

Huntsman (W. A. Huntsman, Lawson, Missouri).—From a trial of one year it would be worthy of planting, either as a family or market sort. Berry very regular and handsome, round or slightly conical, deep crimson; quality excellent. Quite productive.

Leader (received from M. Crawford, Cuyahoga Falls, Ohio).—Originated at Reading, Massachusetts. One of the best sorts for home use and promising for market. Plants strong, but slightly injured by rust. Fruit large, conical, larger ones often irregular. Excellent quality, fairly firm and quite productive. Fruit-stalk stout and erect.

Leviathan.—Plant vigorous and healthy. Berries large, round or depressed; light scarlet. While fairly productive, it is the least valuable in the list, on account of its being quite soft and of poor quality.

Lincoln (Slaymaker & Son, Dover, Delaware).—Plants of medium strength and quite healthy. Fruit resembles Crescent, but holds out better in size than does that variety.

Standard (G. H. & J. H. Hale, South Glastonbury, Connecticut).—Plant strong, but with some rust at the close of the season. Fruit large, round, conical or slightly depressed, often irregular. Fairly productive of berries of very good quality, but deficient in firmness. Promising for home use or local market.

Williams (received from M. Crawford).—A berry of Canadian origin. Plants of medium strength, badly injured by leaf-blight. Berries large, roundish, often irregular. Quite productive and very firm, but of only fair quality. A promising market sort.

Of the other varieties, Allen's No. 1 is a very large berry of excellent quality and fairly firm. If found, on further trial, to be sufficiently productive, it will be valuable for any purpose. Belt's No. 3, Nim's Seedling, Iowa Beauty, Belle of La Crosse. Stayman's No. 3, Yankee Doodle, Brunette, Stevens, Beauty and E. P. Roe are also very promising.

Lansing, Mich. *L. R. Taft.*

Two Unappreciated Fruits.

Among our fruits which rank low in popular esteem are the juneberry and the mulberry, especially the Russian varieties of mulberry. In fact, they are so lightly esteemed that their real value is much underestimated. If we ask a report from the birds as to their quality and desirability we get a very different answer from that given by popular taste and market demand. Scarcely can a more joyous populace be found than the robins, sparrows and wrens who inhabit our gardens in the bounteous days of June. They appropriate these fruits without fear or molestation. Nobody else cares for the Russian mulberries at least, and yet even this despised fruit possesses qualities well worth considering. Its flavor is called flat and insipid, which is true. But the sprightly currant ripens at the same time with the mulberry. A mixture of these fruits—one-third currants and two-thirds mulberries—made into a tart, or used in any way together, makes a rich and juicy dessert. If the mulberry ever comes into market as a commercial fruit it must do so as a cheap product affording a rich and wholesome food at a low rate, and it is doubtful whether it can ever prove profitable, yet it possesses one character which, properly utilized, would go a long way toward bringing about this end. The berries of most of the Russian trees drop almost at a touch, a fact quickly noted by those who pick them or observe the large numbers lying on the ground. This makes it only necessary to trim the young trees high enough to admit some umbrella-shaped canvas like the curculio-catchers commonly in use, then a very little batting, on the same plan as that used in gathering black raspberries for evaporating, will harvest the ripe fruit. It could then be looked over on canvas, if necessary, much cheaper and quicker than it could be picked by hand. Although the birds take many, they waste more by knocking them off, and there is no doubt that on areas of considerable size, systematically picked, this loss would not be so great as at first seems.

The American mulberry is much superior to the Russian both in the quality of its fruit and attractiveness of the tree. It is well worthy a place on grounds of any considerable extent for its ornamental qualities, and if the fruit is desired it can be protected against the birds by cheap netting of some sort.

In the same direction, too, we may look for the greatest usefulness of the juneberry. This fruit, too, is lacking in sprightliness of flower, but it can be improved in the same way as that suggested for the mulberry, for it possesses a rich and pleasant flavor which combines well with the acidity of the currant. Either combination will serve to make a very satisfactory addition to the winter supply of canned fruit in any family.

All the species of Amelanchier are pleasing in appearance, but the dwarf variety, known under the trade-name Success, and which may be classed botanically as Amelanchier Canadensis, var. oblongifolia, is a specially pretty little shrub, which always looks neat and tidy. In early spring it is covered with snow-white blossoms before the leaves appear. The foliage is always bright and attractive, and few prettier fruits of small size are known than those which cover this little shrub throughout the latter part of June and first of July, when they ripen in this latitude. Even if not admired for their beauty, the fruits have a peculiar and pleasant flavor when eaten fresh from the bush. Why may not this plant be used in groups where a low-growing shrub is needed? Then, if the birds claim too large a share, the whole clump can be protected with netting for a short time, during the ripening of the fruit. It is perfectly hardy and healthy and can hardly fail to give satisfaction. Wherever there are children about it is sure of a generous appreciation.

Cornell University. *Fred. W. Card.*

Orchid Notes.

Habenaria gigantea, var. Sumatrana.—This is a new introduction, presumably from Sumatra, and has been offered for sale by Messrs. Sander. It is described as having large white flowers on erect scapes, after the manner of Disa grandiflora, the labellum being three-lobed, the central one narrow, the two lateral ones broad, flat, deeply pectinate or fringed, like the labellum of Brassavola Digbyana. H. gigantea is a synonym of H. Susannæ. It was figured under the former name in the *Botanical Magazine*. t. 3374, and as Orchis gigantea in *Smith's Exotic Botany*, t. 100. It is a native of tropical Himalaya and other parts of India, as well as China and the Malay Islands. The tubers are from three to four inches long, the leaves six inches long, the stem two to four feet high, the raceme four-flowered, each flower three or four inches across, white and fragrant.

Bulbophyllum Hamelinii.—This is another of Messrs. Sander & Co.'s recent introductions. It is a remarkable and distinct-looking Madagascar plant, with pseudo-bulbs like some great flat marine shell, and leaves that are in shape, size and color like those of Oncidium ampliatum majus; the flower stem is erect, thick as one's finger, eighteen inches long, and shows as many as 150 flower-seats. No description of the flowers was given, as the collector had not seen them. There is no Bulbophyllum in cultivation anything like this plant, the pseudo-bulbs being four inches across and pressed flat against the thick rhizome which evidently clings tightly to the branches of trees. Whatever the flowers of this plant may turn out to be, it is certainly worthy of a place in all representative tropical collections on account of its peculiar pseudo-bulbs.

Oncidium Sanderianum.—This is an introduction from Venezuela, where it is found growing at a great altitude, and at a very low temperature. It is said to be a free-flowering species, producing thickly branched spikes, which are covered with rosy red blossoms; in form somewhat reminding one of Odontoglossum Pescatorei. Several plants of this Oncidium have lately been sold at auction. It is in the way of O. zebrinum in habit, but the pseudo-bulbs are more wrinkled and distinctly egg-shaped. Apparently it is new to cultivation, and from the collector's description it ought to prove a good garden-plant.

London. *W.*

Garden Notes.

IF we want strong clumps of Violets to bloom well in winter we must cut off the runners now, and not wait for the Violet disease to show itself before remedies can be applied. We hope to ward off a possible attack of disease by the application of fungicides now. We have two batches, and one is given an application of sulphide of potassium at the rate of half an ounce to a gallon of water, and the other a dusting of "Grape-dust" in twenty parts of air-slacked lime. If neither do any good, they will do no harm. Carnations should be stopped into shapely plants, and mulched if the means to water are not accessible. Bouvardias, Stevias and Marguerites will make better plants if cut in, and the latter may be lifted at the root if they show a tendency to grow large, an operation which puts the plants in better condition for lifting. Brompton Stocks intended for potting up this autumn are also benefited by the same process; in fact, it is almost impossible to establish large plants like these unless this is done. Mignonette and Giant Myosotis for winter cutting should be sown where they are intended to bloom, and early batches of Roman Hyacinths, Freesias and Lilium Harrisii ought to be potted before the month is out, and put in a cool place to root. It is easier to retard than force these, and a longer season gives better results always. Chrysanthemums which have been planted out should be taken up while the weather is dry, and before they get very large. If given a thorough soaking after potting, and stood in a cool place for a day or so, they may be plunged in the open, and should be allowed to dry out again pretty well before watering, even though they should wilt somewhat. Frequent watering on account of wilting does much harm, and is oftener the cause of loss of leaves than dryness at the roots. By this treatment I have never had any difficulty in keeping the foliage good. Stock of all bedding-plants is better for being taken in August, and it is always a preferable way to taking up old plants after frost. Cineraria, Calceolaria and Primula seed ought to be sown, and old bulbs of Cyclamens potted. There are now many fine French Cannas which bloom well during winter in the greenhouse. It was customary to dry these off a little, but experience has shown this to be scarcely necessary, for the plants grew and bloomed steadily with us all last winter without a rest. We, however, did not wait until frost came, but took off some strong side-shoots and grew them along. A good selection of shrubby Begonias may be made now, small plants being preferable, and potted now will make neat plants by winter. Bismarcki, incarnata, insignis, Gilsonii, Paul Bruant, the giant crimson form of Semperflorens, Carrièrei, and Verschaffeltiana are among the best for this purpose.

Showy border perennials are rapidly passing out of bloom. Delphinium Sinense, the first to bloom, is still good, and ought to be better known. Hollyhocks stay with us, and here and there a plant of Lychnis Chalcedonica lightens up the border with its bright scarlet flowers. Campanula Carpathica is yet in its prime, while C. autumnale is just coming in. The variety, Pumila Maresii, is probably the best of these Chinese

Fig. 51.—A Hybrid of Rosa Wichuraiana.—See page 334.

Bell-flowers. Bold clumps of Bocconia cordata and Cimicifuga racemosa are very effective as we have them, but they are weeds, and very bad weeds, too, in a choice border. Later we shall have Funkia subcordata, var. grandiflora, which luckily does well here. Anemone Japonica, Aster Novæ Angliæ, Kniphofias and a glorious array of perennial Sunflowers will usher in the autumn. In the mean time we can enjoy a vast number of choice exotics and annuals. They come in opportunely, and many are very valuable where a quantity of cut flowers is required. Among these we have Gladiolus, including the elegant G. Saundersii, Dahlias, Salvia splendens, Cannas, miniature Sunflowers, Zinnias, Helichrysum, Nasturtium, Coreopsis Drummondii, Delphinium consolida, Stocks, Asters, Sweet Peas, Marigolds, Mourning Bride, yellow and bronze Toadflax and Californian Forget-me-not.

Wellesley, Mass. *T. D. H.*

Grasses.

BAMBOOS prove to be rather disappointing in my garden, after three years' trial, as none of the kinds have grown as vigorously as expected. Those experimented with are B. aurea, Simonii, viridi glaucesens, Ragamovski, palmata and Quilioi. These are reliably hardy here without any protection; they lose their leaves late in the winter, but the canes are not usually touched by frost. B. Ragamovski and B. palmata are broad-leaved dwarf kinds, and show their character better than the others, which should give me tall canes; this, however, they have yet failed to do. It may be possible that they have not had positions to suit them, the soil being rather tenacious and not moist, but the fact remains that they do not make much height, and are not as satisfactory or noticeable as other large Grasses. As pot-plants they require somewhat generous treatment, and have a certain decorative value, though there is a constant browning of leaves and consequent litter. The selection of large Grasses will depend very much on the position which they are to occupy.

For a tall, strong-growing, reliably hardy and graceful Grass, the variety zebrina of Eulalia Japonica will usually be most satisfactory. Under ordinary culture it makes a large clump some seven or eight feet tall, with strong stems and gracefully reflexing leaves barred with lighter green. In the fall they flower with handsome plumes, very much curled, and are useful for house-decoration. The green leaves and stems are also very useful during the season for bold effects in decoration.

A well-grown clump of Pampas Grass is very handsome as a detached group, making a fountain of foliage capped with handsome plumes, but it is not always hardy. The Ravenna Grass, Erianthus Ravennæ, sometimes does duty with the florists as Pampas Grass. It is a green-leaved, tall-growing sort, not so graceful as the Gynerium, but it is more hardy. For a bold effect there is nothing better than Arundo donax, though it is a coarse plant, and needs the gloss of distance. This is easily grown to a height of ten or twelve feet. The leaves are glaucous, and clasp thick stems. The casual observer generally asks as to the variety of Corn which is being grown. The variegated variety of Arundo donax is a much dwarfer plant, only three or four feet high, and much less coarse in effect. These plants require here a slight protection, a small mound of coal-ashes over the roots being satisfactory in preserving them from destructive moisture. I have under trial a large form of Panicum spectabile, sent to me as the variety Gigantea. From seeds sown in the early year there are strong plants flowering in loose panicles at about seven feet. This is said to be a ten or twelve foot Grass, and, I should judge that it might reach that height from strong roots. This is said to be hardy and sometimes variegated, though none of my plants have shown more than a white channel on the midrib. The leaves midway are about two inches wide, wider than those of the Eulalia, and the plants are distinct from the other large Grasses. There is also the typical form of P. spectabile about three feet tall. This is also the height of the beautiful Eulalia gracillima univitatta, which, as many of your correspondents have remarked in your columns, no garden should be without. Eulalia Japonica variegata is of the same height, and the brightest of variegated Grasses; it is taller than the Ribbon Grass, Phalaris arundinacea, and much less spreading at the roots. Of the still shorter Grasses, I fancy most Elymus glaucus, which has a rich glaucous sheen extremely effective. Elymus hystrix was sent me as one of the handsomest Grasses in cultivation, but I fail to see any beauty in its foliage or heads of coarse flowers. Pennisetum longistylum is a well-established favorite for its effective heads of bloom. There is a Grass in the swamp of the lower part of this state which has a fur-like ball of bloom, which it has always seemed to me would be effective in cultivation—Pussy Grass, in the vernacular—Apera arundinacea. The Pheasant Grass is a handsome species, very odd and distinct, the leaves being marked in bright reds and browns. This did not grow very well for me, probably from neglect, for I do not think it a delicate plant, though it had at first glance a look of a plant suffering from some blight or disease.

There are numerous aquatic and sub-aquatic Grasses and Sedges—of these latter, the exotics Cyperus Papyrus, C. pungens and C. alternifolius being the most satisfactory, though tender. Hydropyrum latifolium (Co-ba of the Chinese) is a perfectly hardy aquatic grass, with a jointed stem from which spring several tall leaves. It is something in the way of "Wild Rice," but a handsomer plant. It has not flowered in the two years it has been cultivated here. In planting edges of ornamental water, it will be found most satisfactory to search neighboring swamps and use the most effective native plant. This course, pursued by Mr. Olmsted, at Chicago, has produced one of the most effective and satisfactory bits of planting in the grounds of the Exposition.

In selecting decorative Grasses preference should be given to those which have a long season of growth, as those which flower and mature early are apt to prove unsightly. Scarcely enough use is made of the noble Grasses in arrangements of decorative plants. Masses of these, as often seen, have a rather heavy effect, which a well-considered addition of Grasses would often relieve.

Elizabeth, N. J. *J. N. Gerard.*

Correspondence.

The Russian and other Apricots.

To the Editor of Garden and Forest:

Sir,—Perhaps there are few new fruits which have been more indiscriminately praised, and concerning which so little is known, as the Russian Apricots. Probably the chief reason for this indefinite knowledge is the too common feeling that, at best, Apricots are not suited for growing in the northern states, and no serious attention is given them, yet, if care in selection of site is observed and some attention is given to varieties, Apricot-growing is capable of affording excellent commercial results even in New York state. There are now considerable plantations of Apricots in western New York, the most prominent being the large orchard of E. Smith & Sons, on Seneca Lake. The Apricot-tree is fully as hardy as the Peach. It blooms early, and is liable to be caught by late spring frosts, therefore it is essential that the site be one where vegetation starts late or that the spring temperature is equalized by the presence of a large body of water.

The chief merit attributed to the Russian Apricot is its hardiness, but my own experience, extending over about eight years, shows that in central Michigan and in New York the Russian stock is as likely to be injured by climate as the common and better varieties. At Lansing, Michigan, a lot of about fifty strong two-year seedlings from Nebraska were killed, most of them root and branch, while budded trees alongside stood a year or two longer, yet these budded trees finally succumbed. All these trees were upon sandy soil. Here at Ithaca, in central New York, our trees are upon clay, and they endure the climate perfectly, although our winters are less severe than at Lansing. I do not know that the character of soil makes any difference in the hardiness of these trees. Breda, Early Golden and other common sorts endure our climate equally as well as the Russian variety. It has been said that the Russian Apricot belongs to the species Prunus Sibirica, but this is a mistake. It is only a race of the common Apricot, Prunus Armeniaca, yet the Russian Apricots differ considerably from ours in type, having a darker and rather narrower leaf; and the fruits, so far as I have seen them, are inferior. If the Russian Apricots are really hardier than the common ones they should be widely disseminated upon the northern borders of our Apricot region; but where other Apricots can be grown, these are scarcely worth the land they occupy.

We have a number of good trees of Russian Apricots, set in 1888, and at this writing they are carrying bushels of fruit. The handsome little fruits hang in clusters and ropes on many of the trees, especially on Budd, Gibb and Alexander. The catalogues have said that some of these Russians, especially the Catherine, are almost as early as Strawberries, but none of ours have ripened before the last week in July, and Alexander and Gibb will not be fit to pick for several days yet.

The following field-notes upon Russian Apricots were made August 3d, from well-grown trees carrying full crops:

CATHERINE.—Early, fit to ship July 26th, now all soft and ready to eat from the tree. Fruit small, slightly oblong-globular, deep rich orange, with a dull red cheek in the sun, rather dry in flesh and of indifferent quality, even for a Russian, and possessing three or four woody strings running along the angles or ventral side of the pit, which remain in the flesh and greatly detract from its value. Freestone, average fruits measure three and one-half inches in transverse girth, and two to three of them weigh an ounce.

BUDD.—About the same as Catherine in season, or possibly a day later, oblong in shape, light orange in color, with only a very faint blush, if any. Flesh moderately juicy, with a sweet peach flavor. Varies from cling to half-cling. Evidently one of the best in quality of the Russians, but too small for market. Ripe with Early Golden, or only a day or two ahead of it.

NICHOLAS.—Some trees ripen with Budd, and others a week or ten days later. Fruit larger and fairer than Budd, oblong and more or less flattened. Flesh juicy and sweet, the pit free. There are evidently two kinds of this variety in our orchard, although the trees were all procured at the same time from one nurseryman. The later trees bear larger fruits than the others, with a much larger and looser pit, and have a drier flesh. Possibly Alexis is mixed with this.

ALEXANDER.—About a week or ten days later than Catherine and Budd. Fruit small, oblong and flattened, orange-yellow, with a faint blush cheek, the flesh firm and rather coarse. Pit larger and loose. This and the late form of Nicholas, mentioned above, seem to be the same thing. About the season of the Breda, with us.

GIBB.—Three or four days later than Catherine and Budd, and somewhat larger, oblong and flattened. Color a light lemon or white-yellow, with only a trace of color in the cheek. Flesh juicy and tender, but lacking in flavor, somewhat acid. Pit rather large and loose.

These five are the only Russian varieties which we have fruited. None of them are as good, either in quality or size, as Royal, Breda, Early Golden and other varieties. The Russian Almond, sold by Lovett, is an Apricot, although we have not yet fruited it.

The following notes were made July 27th, in the Smith orchard, on Seneca Lake, mentioned above:

Early varieties grown are Harris, Smith's Early, Early Moorpark and Early Golden. These had all been harvested, with the exception of a few of the Early Moorpark. One tree, which was simply called the Russian, still bore a few small, deep yellow fruits, very poor in quality. The proprietors report that the other Russians tried by them are of no greater value. The Harris and Smith's Early are favorites for the early market. These two varieties resemble each other very closely, and it is possible that they are identical. Smith's Early originated from a tree found growing in the yard of Mr. Smith. This was after the distribution of the Harris, and as its origin is not certain it may be identical with that variety. It is, however, sold and propagated as a distinct variety. The fruit of these two varieties is large and sells well in the market. Their flavor is not of the best. In this respect the Early Moorpark excels. Although it is too small to sell well, still as an apricot for home use it is unsurpassed.

Among the more important varieties which follow those named above may be mentioned Jackson, Eureka, Allison, Royal, Turkish, Saint Ambroise and Roman. These varieties are medium to large and produce paying crops. The last two closely resemble each other, so much so that they might be considered identical. A possible difference might be found in the extent to which the fruits are flattened. This peculiarity is, perhaps, more marked in the Saint Ambroise, but otherwise the two varieties are not distinguishable. A still later variety is the Late Moorpark.

In marketing apricots, the matter of variety is ignored. Fruit is graded according to size, fairness and form. The crates are marked "Choice" for the first grade, and the seconds go in as plain apricots, for canning, preserving, etc. The California package is the one used for shipping. It consists of one layer of four boxes, the standard size used for choice fruits. Mr. Smith's markets are chiefly Rochester and Philadelphia. No fruit is shipped to New York.

Ithaca, N. Y. *L. H. Bailey.*

A Twin Tree.

To the Editor of GARDEN AND FOREST:

Sir,—About a mile from the shore, and two miles to the southward of the Princess Anne Hotel, at Virginia Beach, near the high-road to the historical old Princess Anne Court House, stands a little old church, evidently repaired and re-roofed in modern days, but clearly of colonial origin, a simple red brick structure with round-headed windows. It has no architectural merit, but is interesting from its antiquity, and effective in color as it stands relieved against a near background of woods, with a great tree rising near its southern side, to give it both dignity and picturesqueness.

Driving along the road early in April, when the leaves were just beginning to unfold, this tree seemed to have been split by lightning in its early years, but to have flourished wonderfully since. Cleft to within four or five feet of the ground, its twin trunks thence rose nearly straight to a considerable height, the branches of one far overtopping those of the other. A little later I noticed that the foliage on the lower half of the head, for the effect was not as of two heads, was developing much more rapidly, and with a different character and color, than that on the other, and in a day or two their aspects were so unlike that the composite character of the tree could no longer be mistaken.

On closer examination the left-hand trunk, bearing the lower portion of the foliage, in the more advanced stage of growth and with the brighter green tint, proved to be the trunk of a Swamp Maple, while the other revealed itself as a Sweet Gum. Measurements gave the exact height of the divergence of the trunk as four feet ten inches. At about one foot from the ground, above the conspicuous swellings of the roots, the compound trunk girthed thirteen feet ten inches. When fairly clear of its neighbor the circumference of the Maple is eight feet seven inches, and that of the Sweet Gum seven feet eight inches. Judging by the eye, the height of the Maple is fifty or sixty feet, and the height of the Sweet Gum at least one hundred. The trunk of the Sweet Gum rises perpendicularly, while that of the Maple inclines a little away from its twin.

But the most interesting point about this compound tree is the integrity of the trunk below the point of forking. It is absolutely symmetrical—as symmetrical as the single trunk of any of the big normal Sweet Gums which stand near it; and the lines of juncture are no rougher or more broken than the surfaces of the bark on either side. The character of the bark of these two trees, when in so mature a stage of development, is not very unlike in surface or color, and this fact assists the effect of union. Were they only a little more closely alike it would be difficult, indeed, to detect where Maple bark begins and Sweet Gum bark ends. The lines of juncture are not perpendicular, but, on one side especially, the Maple claims a conspicuously larger part of the circumference, as though in their youth it had tried to embrace the foundations of its neighbor. The great roots show plainly above the surface of the soil, and those of the Maple run out far among their rivals.

Now that the foliage on both heads is pretty fully developed, the contrast between the two is not so striking; but it is yet clearly apparent; and when the Maple-leaves were half-grown and of the most vivid light emerald green, while the Sweet Gum leaves were much smaller, giving a mistier look and a less vivid tint to the boughs they clothed, the effect of the tree, or trees, was very singular and very pretty, despite a size which entitled them to be called majestic. The largest Sweet Gum which I measured in the near vicinity girthed twelve feet six inches at one foot from the ground.

Virginia Beach, Va. *M. G. Van Rensselaer.*

Recent Publications.

The Fourth Annual Report of the Missouri Botanical Garden shows a gratifying evidence of growth, and, although the wants of the garden have been fully met and all the wishes of the founder carried out, the balance-sheet shows a surplus of more than $17,000. The library contains 11,455 books and pamphlets, the herbarium 203,000 sheets of specimens, and these items, valued at $44,450, bring up the stock account of the Board to an aggregate of a million and a half of dollars. Among the donations received during the year was an extensive collection of specimens, manuscripts and illustrations of the genus Capsicum from Dr. E. Lewis Sturtevant, which was given on the condition that the genus should be studied with reference to a monograph on the wild and cultivated forms of the genus. Dr. Sturtevant has also indicated his desire to make a donation to the garden of his entire botanical library, which is said to be the most complete and valuable American collection of pre-Linnæan botanical books. The scholarships have all been filled, and the young students in the garden are said to have applied themselves with commendable interest. The course, which originally extended over six years, has proved longer than was desirable, and the curriculum has been

modified so that the course is reduced to four years. Of the scientific papers included in this report the longest one is a list of plants collected in the Bahamas, Jamaica and Grand Cayman by A. S. Hitchcock. The total number of species determined amount to nearly 1,000, while there remain to be added the varieties and cultivated plants. The list, with the index, covers about 140 pages, and includes several plates. Professor Trelease adds the results of further field studies upon Yuccas and their pollination, and this paper is illustrated by several half-tone reproductions from photographs and wash-drawings.

Notes.

Rudbeckia purpurea is not a common garden-plant in this country, and it is comparatively rare in cultivation in Europe. Mr. Watson writes that in Kew, both in the borders and the rockery, it is one of the stateliest and most effective of the many noble composites which have been introduced from America.

We have received from Mr. William Parry, of Parry, New Jersey, a specimen of a new apple which originated in southern New Jersey, and called the Starr. It is a large, smooth, green fruit, not quite ripe when received on the last of July, and therefore a little too strongly acid, although it would have been excellent even then for cooking purposes. Mr. Parry states that the tree begins bearing when it is comparatively young, and that it bears abundantly. It has not yet been placed upon the market.

On Saturday of last week the Massachusetts Horticultural Society gave its gold medal to the Honorable Joseph S. Fay, of Wood's Holl, for the superior cultivation of specimen plants of Hydrangea hortensis. Five or six of the plants were exhibited in the Society's hall in Boston, and it is safe to say that better examples of cultivation, as applied to the Hydrangea, have never been seen. The plants were faultless, the largest being about ten feet through and seven feet high, and bearing some three hundred well-developed heads of flowers; the others were only slightly smaller, and all were mounds of large, healthy and well-colored foliage almost hidden by the flower-heads.

The variety of Rhus semi-alata, which is generally known as Osbeck's Sumach, is, at this season, when few other trees are in flower, a very conspicuous object. The round head is covered with numerous large terminal panicles of minute flowers, whose petals are pure white, although the projecting antlers of clear lemon-yellow give a cream-colored effect to the panicles, which show well above its very dark green foliage. The tree grows very rapidly, and in Japan the foliage turns to brilliant colors in autumn. In this country, however, these autumn colors are not nearly so bright as those of our native species. It is a well-shaped tree, but the absence of leaves from the inner branches detracts from its appearance on near inspection, and it has a disagreeable habit of throwing up root-suckers anywhere within a radius of fifty feet.

In a report submitted to the German Agricultural Society, Professor Maercher stated that potash-salts when used on sandy soil had a marked effect on the growth of young Pine-trees, and he recommended the extensive use of these salts in forest-culture. Inasmuch as the ashes of wood contain much potash, it looks reasonable that a supply of this mineral in the soil would benefit tree-growth. We know, too, that trees attain large dimensions in situations where the mineral constituents of wood are abundant. Perhaps, however, before the practice of hurrying forward young trees by furnishing potash to their roots is adopted it would be well to ascertain whether this growth would have any prejudicial effect upon the same trees at a later period of their development when these mineral elements could not be obtained in the same abundance, and whether it would pay to continue this fertilizing process during the entire life of the tree.

A figure of Crotalaria longirostrata, a Mexican Genista-like sub-fruticose or herbaceous Mexican plant, is published in the July issue of *The Botanical Magazine* from specimens which flowered last winter at the Royal Gardens at Kew, to which this plant was introduced through the Department of Agriculture of the United States in 1891, from seed gathered by Dr. Palmer at Colema in January of that year. In a note published in *The Garden* in March, Crotalaria longirostrata is described as a thoroughly useful plant for flowering in the winter months, the specimens at Kew having kept a gay display for over two months in spite of the fogs. At the end of the long slender branches it bears clusters of bright yellow pea-shaped flowers more than an inch long. As this plant is easily propagated by cuttings, and as it remains in bloom, even under the trying conditions afforded by the London climate, for a long time, it may be expected to become a valuable and popular greenhouse plant.

An obscure disease of cattle, known as the Rickets, has been prevalent for some time in New South Wales, and an article in the last number of the *Agricultural Gazette*, published in Sydney, states that it is very probable that the disease comes from eating the fruit of the so-called Zamia Palm, Macrozamia Miquellii. The nuts of some species of Macrozamia have, for a long time, formed an important article of food of the aborigines of that region, and yet they seemed to have been well aware that in their raw state these nuts were poisonous. Analysis of the nuts has been made several times, but the poison has never been satisfactorily identified. The noxious principle, whatever it may be, seems to be made inert, or it is expelled by heat. Cattle do not, as a rule, eat the nuts or other parts of this plant, but it is stated that when a taste for it is once acquired the Zamia-eater teaches other cattle in the same herd the same habit. The chief symptom of the disease is a loss of proper control over the movements of the hind limbs, and affected animals seem never to recover completely. They are capable, however, of being fattened if placed on good food, and the flesh of those in good condition appears to be quite sound.

An *Enumeration of the Plants collected by Dr. Thomas Morong in Paraguay, 1888–90*, has recently been published. It is the work of Dr. Morong and Dr. Britton, assisted by Miss Anna Murray Vail, and forms a volume of 235 pages. During Dr. Morong's two years' stay in Paraguay he thoroughly examined all the region within a hundred miles of Asuncion and the uninhabited portions of the Gran Chaco wilderness for 400 miles up the little-known Pilcomayo River; and his collection, including Mosses, contains very nearly 1,000 species, representing 106 genera, almost one-tenth of them being new. All the new species have been carefully described after comparisons made in the herbaria of Columbia College and of Kew, with the assistance of a number of distinguished European botanists. In commenting upon the book the *Bulletin of the Torrey Botanical Club* says that it is worthy of record that "after a voyage of seventy days across the Atlantic, and after a sojourn of two years, much of it spent in a remote wilderness inhabited only by roving Indians and wild animals, with not a mishap or a single day's illness to detract from his good fortune, the collector circumnavigates the South American continent and returns in perfect health. Of the 12,000 or more specimens collected not one is lost; and within three years from the time of his return the whole collection is collated, enumerated and published."

We have often suggested that an index should be made of the various reports of the meetings of the agricultural and horticultural societies of the different states. While there is very much in these volumes which never should have been printed, and much that has no permanent value whatever, there is hardly one of them which does not contain essays that are important, and that will be of advantage to the student of the history of agricultural and horticultural progress in this country. We are glad, therefore, to know that an index of this character has already been made for the agricultural literature of the state of Maine, and that with this in hand the student need not be compelled to search through forty volumes to find out what he wants. This index is a part of an interesting book called *The Agricultural Bibliography of the State of Maine*, which has been prepared by Samuel L. Boardman as a contribution to the "Agricultural Literature and Statistics Exhibit" of the Columbian Exposition. From the historical sketch with which the book opens we learn that Maine was the third state in the Union to establish a society for the improvement of agriculture, Pennsylvania setting the example in 1785, South Carolina following the same year, Maine organizing her society in 1787, and Massachusetts in 1792. In the *Bibliography* we find many names which will surprise many of our readers as belonging to Maine. For example, H. D. Thoreau, Dr. A. S. Packard, Dr. E. L. Sturtevant, Professor G. L. Goodale, Dr. C. H. Hitchcock and many more. The biographical sketch of some of the pioneers in agricultural literature, like the Vaughan Brothers at Hallowell, Ezekiel Holmes, whose portrait is the frontispiece of the volume, and many others, are singularly interesting, and the whole volume does credit to its compiler and to the state of Maine.